

The Impact of Financial Leverage on Firms' Value (Special Reference to Listed Manufacturing Companies in Sri Lanka)

Meragal Pedige Shanika Ishari¹

Senadheera Pathirannahalage Gayan Madhushanka Abeyrathna²

Faculty of Business studies, Vavuniya Campus, University of Jaffna, Sri Lanka

E-mail: isharimps@yahoo.com, gayan.vcgayya@gmail.com

ABSTRACT:

This paper investigated the financial leverage on firms' value. The main objective was to compare the value of the firms of the listed manufacturing companies in Sri Lanka by using the financial leverages for estimations. The necessary data was collected from secondary sources. A sample of ten listed manufacturing companies was considered with 50 observations for the period 2011-2015. Financial ratios were calculated and statistical tools including Pearson's correlation, descriptive analysis of variance and regression analysis were utilized in testing the hypotheses and to measure the differences and similarities between the manufacturing companies according to their different characteristics. However, the results indicate that there is a significant relationship between DE ratio and ROA. According to Pearson correlation, there is a weak negative relationship between DE ratio and ROA. And also, there is not a significant relationship between DE ratio and ROA. It is recommended that empirical studies should be undertaken in the same field to find out what financial leverages could affect firms' value of manufacturing companies. This study would hopefully benefit the academicians, researchers, and practitioners of Sri Lanka and other similar countries through exploring the impact of financial leverage on firms' value.

KEY WORDS: Debt/Equity Ratio, Return on Equity, Return on Assets

I. INTRODUCTION

The main objective of a firm is to maximize its value. A company financing from the debt capital has a legal binding to pay interest on the debt at the predetermined rate and this liability cannot be eliminated until the withdrawal of the debt capital. But, the investors in the share capital are rewarded by dividend for their investment only if the company earns enough profit from the operation. Increasing use of debt in the capital structure also increases financial risk and bankruptcy cost to the shareholders. Therefore within these two conflicting legal bindings, the management of the company has to pay more attention on the maximization of shareholders' wealth because the survival of the company and its managements is dependent on the satisfaction of the shareholders. Thus the management of the company should consider how financing of required funds affect the shareholder risk, return and value of the firm.

Jammel (2004) identified that the size variable positively affect the value of the firms. People invest in large size organizations due to some reasons. It would give you wide marketability for their shares and well-known companies in the capital market, more diversified and reduces the risk, low production cost. Firm size can be measured as total assets, total sales, total fixed assets, total capital employed. Jameel (2004) has taken book value of total assets for the cross sectional years in his research study. Titmen Wessels (1988) assert that larger firms are more diversified and are therefore less susceptible to bankruptcy than smaller firms.

II. LITERATURE REVIEW

Ronald (1983) identified that the valuation effects of leverage altering capital structure changes. Issuer exchange offers and recapitalizations were analyzed because they do not involve simultaneous asset structure changes. He has developed a linear model to estimate firm valuation effects from stock announcement returns and actual capital structure changes, and then was estimated using ordinary least squares. The result was a statistically significant regression equation having parameter estimates consistent with model predictions and explaining more than half the cross sectional variation in stock announcement returns.

Evidence was obtained according to Ronald (1983) that changes in stock prices are positively related to leverage changes, changes in nonconvertible senior security prices are negatively related to leverage changes, the magnitude of leverage induced non-convertible senior security price changes is substantially greater when leverage changes involve senior securities of equal or greater seniority to those outstanding, changes in firm value are positively related to changes in firm debt level, lower bound estimation of the firm valuation effect per dollar change in debt were found to be in the range of 0.23- 0.45. This evidence was shown to be consistent with tax based models of capital structure and leverage induced wealth transfers across security classes as well as with information effects concerning firm value which are positively related to changes in firm debt level.

Jameel (2004) found out that the value of the firm is dependent on financial leverage, and this finding is consistent with the traditional view.

Wipern (1966) analysis reveals that a determination of the effect of capital structure on shareholder wealth is a problem of demand analysis. Normative analysis shows only that the use of fixed commitment financing by the firm can increase shareholder wealth, but in it cannot prove that non-equity financing by the firm can increase shareholder wealth, but in itself cannot prove that non-equity financing will or should improve the investment position. A solution of the leverage question is therefore a problem in positive economics. An important emphasis in this study was to design the empirical tests of the relationship between equity yields and leverage to be as free as possible from the measurement problems that have limited the validity and applicability of previous studies.

According to Wipern (1966) leverage was measured as the ratio of fixed charges to minimum expected income in order to avoid the conceptual and statistical biases of the debt: equity ratio measure. A proxy risk variable was explicitly admitted to the analysis as an adjustment for basic business risk, thus permitting tests of the equity – yield leverage relationship among firms from seven diverse industries. The inclusion of this proxy risk measure made it unnecessary to adopt any assumptions about risk equivalence within the industry classes. The evidence of the effects of capital structure on the value of the firms included in his study provides support for the intermediate or traditional view that shareholder wealth is enhanced by the firm's judicious use of fixed commitment financing. The capital markets are not, according to the evidence derived here, sufficiently perfect to validate the Modigliani and Miller arbitrage argument and, in addition to tax effects, firms do gain by employing a mix of financing sources.

Ronald (1983), Jameel (2004), Wipern (1966) identified that there is a positive relationship between the value of the firm and the financial leverage.

On the other hand to Kuben (2008) identified that increase in financial leverage negatively correlated with the firm value. In his research his main objective was to investigate whether capital structure positively or negatively influences the value of the firm in a South African context. Furthermore his report also has considered how the volatility of the local interest rate impacts on capital structure.

Ronald (1993) stated that there is an extensive theoretical literature concerning optimal capital structure. However, there is little empirical evidence of a relation between changes in capital structure and firm value. In the best known test of an optimal capital structure model, Miller Modigliani reported evidence of a positive relationship between firm value and leverage which they attributed to a debt tax shield effect. Their results are suspect, however, because of statistical problems they encountered when attempting to adjust for differences in the firms' asset structures. Since only regulated firms were examined, there is also some concern that their empirical findings were caused by the regulatory environment in which these firms operate. No strong evidence of a relation between a firm's value and the size of its debt tax shield has been uncovered since the Miller-Modigliani study.

Jameel (2004) identified that there is no significant differences among the means of results for different sectors.

Gulner (2008) found out that equity returns increase in leverage for some risk classes and decrease in leverage for others. He further explained that firms in industries such as Utilities, that MM employ in their tests, have abnormal returns that increase in leverage. Firms in most industries experience abnormal returns that increase I leverage. Firms in most other industries experience most abnormal returns that decrease in leverage, which result supports more resent the findings of authors using mixed samples of firms. For most risk classes,

abnormal returns increase as the average leverage level increases. Utilities is one risk class in which there is a high concentration and in which firm leverage levels are close to industry leverage levels.

Titman and Wessels (1988) suggested that firms that make products requiring the availability of specialized servicing and spare parts will find liquidation especially costly. This indicates that firms manufacturing machines and equipment should be financed with relatively low debt.

III. METHODOLOGY

The proposed population of relevance is all the companies listed on the Colombo Stock Exchange (CSE). Therefore population represents all of the companies which are listed on CSE. This study has selected 10 listed companies in manufacturing sector. This study uses data of 5 year periods of financial statements commencing from 2011 to 2015.

This research study tries to identify the relationship between the financial leverage and the value of the firm. According to Pandey (1993) financial leverage is only the debt capital taken, not the preference capital. He has mentioned three ways of measuring of financial leverage as the ratio of debt to total capital, the ratio of debt to equity capital, the ratio of fixed charges to net operating income. For the purpose of this research study researcher selected the ratio of debt to total capital to measure financial leverage. Furthermore Kuben (2008) has measured the value of the firm by using profitability and growth ratios (profitability, gearing, investment, solvency, financial efficiency ratios). Return on Assets (ROA), Return on Equity (ROE), ratios has been taken by Kuben (2008) as proxies to measure the value of the firm so that researcher selected the same ratios for this research study.

Return on Assets (ROA) -The CIMA official Terminology defines the Return on Assets as dividing the operating profit by total assets. ROA is a measure of a firm's profit generated relative to its investment in assets. It provides an indication of whether a firm's assets are under or over utilized. It is thus an indicator of operating performance.

$$\text{Return on assets} = \frac{\text{Net income}}{\text{Average total assets}} * 100$$

Return on Equity (ROE) Return on equity measures the return investors derives as a result of investing in the firm. Since it measures net profit after tax over total equity, it takes into consideration all costs including the cost of debt and taxes.

$$\text{Return on assets} = \frac{\text{Net income}}{\text{Average total Equity}} * 100$$

In this study, researcher has tested following hypothesis by using Pearson correlation analysis.

H₁: There is a relationship between financial leverage and value of the firm

H_{1a}: There is a relationship between debt equity ratio and Return on Assets (ROA)

H_{1b}: There is a relationship between debt equity ratio and Return on Equity (ROE)

And also, researchers following models have been tested by using regression analysis.

Model 01----->**ROE = $\beta_0 + B_1X_1 + E$**

Model 02----->**ROA = $\beta_0 + B_1X_1 + E$**

Where,

- ROE= Return on equity
- ROA=Return on assets
- β_0 = Constant

- B_1 =Parameter
- X_1 =Financial leverage
- E=Error Term

RESULTS AND DISCUSSIONS

Table01: Correlation Matrix

		DE_Ratio	ROE	ROA
DE_Ratio	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	50		
ROE	Pearson Correlation	-.054	1	
	Sig. (2-tailed)	.710		
	N	50	50	
ROA	Pearson Correlation	-.336*	-.023	1
	Sig. (2-tailed)	.017	.873	
	N	50	50	50

*. Correlation is significant at the 0.05 level (2-tailed).

Table 01 is showing the output of Pearson correlation analysis. According to these data there is a significant relationship between DE ratio and ROA at 0.05 levels. That means, H1 can be accepted. According to Pearson correlation, there is a weak negative relationship between DE ratio and ROA. And also, according to these data there is no significant relationship between DE ratio and ROE at 0.05 levels. That means H2 has to be rejected. According to Pearson correlation, there is a weak negative relationship between DE ratio and ROE. But it is not significant.

Table 2 : Regression Analysis Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.054 ^a	.003	-.018	3.41131
2	.336 ^a	.113	.094	.26440

Table 02 is showing summary of model testing using regression analysis. R^2 value of model 01 is 0.003. It indicates D/E ratio contributes to determine on ROE by 0.3%. Remaining 99.7% contributes on ROE by other factors. And also R^2 value of model 02 is 0.113. It means D/E ratio contributes to determine on ROA by 11.3% and it indicates that all the other factors are contributes on ROA on 88.7%.

IV. CONCLUSION

The aim of this research was first to establish whether or not a relationship exists between financial leverage and firm value. The findings indicate a correlation for the market. However an inverse relationship exists between financial leverage and firm value. However the research proves that the financial leverage not higher impact on the firm's value, it can be understood by the values taken by the analysis. Furthermore, in the long term the relationship between debt equity ratios and ROA was statistically significant ($P < 0.05$). Regression analysis between financial leverage and ROE revealed negative relationship. In the long term, debt equity ratio on ROE explains 0.3 percent of the variability in financial performance and 11.3 percent contribute of ROA. By evaluating these results researcher could understand that listed manufacturing companies in Sri Lanka have not focus their attention on debt financing for the purpose of the company growth. Hence the management should contribute their attention how they can use debt financing for the company's growth.

V. RECOMMENDATIONS

Companies' management should ensure that financial decisions made by them are in consonance with shareholders' wealth maximization objectives which encompasses the profit maximization objective of the firm.

The amount of debt finance in the financial mix of the firm should be at the optimal level so as to ensure adequate utilization of the firms' assets. The separation of ownerships and management in modern day corporation (companies) demands that agents must act in ways that are in line with the objectives of the principal in order to achieve enhanced earnings per share for the firm owners.

More often than not, it is rare for any firm to depend solely on equity finance, thus, management may seek other sources of funding which may not be in the interest of equity holders. Therefore, managers should employ financial leverage in a way that enhances value for their company owners' leading to an increase in returns to equity holders.

The management should monitor the interest charged on debt financing to avoid liquidation of the company. It is also suggested that further research be conducted on the same topic with different sector and extending the years of the sample.

REFERENCES

- [1.] Anandasayanan, S., Subramaniam, V.A., Sireeranthan, A., Raveeswaran, M. (2013) Determinants of Leverage of the Listed Companies in Sri Lanka: An Empirical Study International Journal of Research in commerce, economics & management vol. 3, Issue no. 06 (June) ISSN 2231-4245
- [2.] Bhanot, K., Mello, A., (2006). Should corporate debt include a rating trigger Journal of Financial Economics? PP. 79-69
- [3.] Buvanendra S. (2013) capital Structure Determinants Evidence from manufacturing and service sector companies in Sri Lanka. An international multidisciplinary research journal, Vol 3, PP. 83-99
- [4.] Fama, E.F. and French, K.H. (2002) Testing trade-off and pecking order predictions about dividends and debts, Journal of Financial Studies, 15, PP. 1-33
- [5.] Frank, M. and Goyal, V. (2003). Testing the Pecking Order Theory of Capital Structure. Journal of Financial Economics, 67, PP. 217-248.
- [6.] Gulnar, M. (2008). An Empirical Test on Leverage and Stock Returns, Available at: <http://www.efmaefm.org/0EFMAMEETINGS/EFMA%20ANNUAL%20MEETINGS/2009-Milan/papers/EFMA2009_0108_fullpaper.pdf>
- [7.] Jameel Hasan Al-Najaar, 2013, "The Effect of Financial Leverage on the performance of firms listed at Palestinian Security Exchange - An Empirical Study" Alazhar University Journal, Vol. 15, Issue 1, 2013. PP 281-318.
- [8.] Kuban, R. (2008). Financial leverage and firm value, Available at: <<http://www.repository.up.ac.za/bitstream/handle/2263/23237/dissertation.pdf?sequence=1>>
- [9.] Pandey I.M (2010). Financial management 10th edition, Vikas Publishing Housing pvt Ltd
- [10.] Ronald W.M., (1983). The Impact of Capital Structure Change on Firm Value; The Journal of Finance, Vol. 38(1) PP. 107-126
- [11.] Titman, S. and Wessels, R., 1988. The determinants of capital structure choice. The Journal of Finance, 43, PP 1-19.
- [12.] Velnamby T, Nimalathasan B (2008). Firm Size and Abstracts of research papers, Jaffna science Association, and 15th annual session, Jaffna, Sri Lanka, 15(1) PP. 74
- [13.] Wipperfurth, Ronald, (1966), "Financial Structure and the Value of the Firm", Journal of Finance, XXI, December, PP. 615-633.
- [14.] Yogendrarajan, R., Thanabalasingam, S. (2012) The effect of profit margin on capital structure A study of listed manufacturing companies in Sri Lanka